

REMARKS

Summary of Office Action

In the Office Action, Claims 7 and 28 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1-6, 8-27 and 29-42 were rejected under 35 U.S. C. §103(a) as being unpatentable over U.S. Patent No. 6,269,953 issued to Bernier et al. in view of Braks et al.

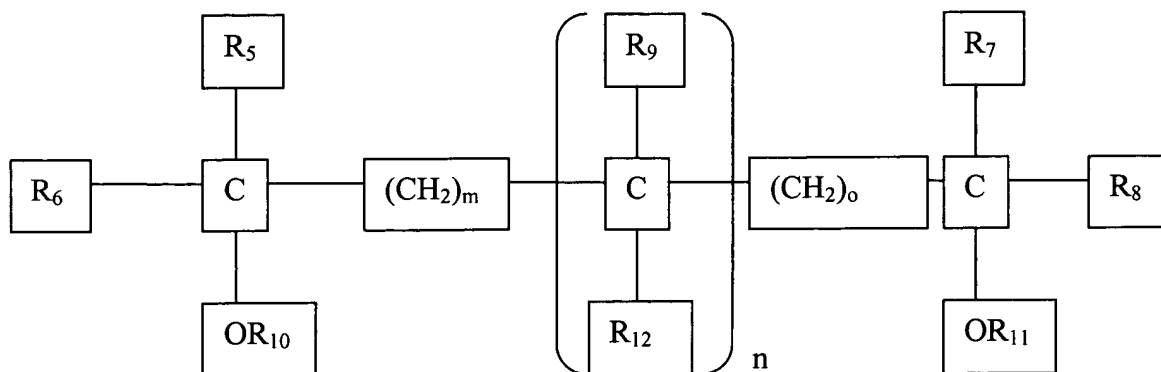
Summary of Amendment

Upon entry of the present Amendment, the Specification and Claims 1, 7, 20, 22, 28 and 41 will have been amended. Additionally, new Claims 43-48 have been added. As such, Claims 1-48 remain currently pending. By the present Amendment and Remarks, Applicant submits that the rejections have been overcome and respectfully requests reconsideration of the outstanding Office Action.

Applicant's Response

1. Section 112, Second Paragraph, Rejection of Claims 7 and 28

The structural formula for the wax envisioned for use in the present invention has been amended both in the specification, specifically in paragraphs 0014 and 0026, and in the Claims, specifically Claims 7 and 28, to accurately describe the waxes that Applicant envisions using with the present invention. In particular, the formula has been amended to read as follows:



wherein R₅ to R₁₂ is selected from the group consisting of Hydrogen, Alkyl and Aryl;
 wherein m and o are positive integers; and wherein n is at least zero.

Applicant respectfully submits that no new matter has been added by these changes. The changes were made in order to make the formula correct as was submitted in the original provisional application. In particular, the variable "0" following a (CH₂) moiety has been changed to the proper variable "o"; the variable "n" has been added; and the claim language has been changed to read "wherein n is at least zero." Applicant submits that these changes result in the addition of no new matter because they are present in the originally filed provisional application. *Claim 5.*

Additionally, the variable "R₂" has been changed to "R₁₂." Although the formula in the provisional application also named the variable "R₂," Applicant submits that the change does not add new matter. Pursuant to MPEP § 2163.07 an amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of error in the specification, but also the appropriate correction. *In re Odd, 443*

F.2d 1200, 170 U.S.P.Q. 268 (C.C.P.A. 1971). Applicant respectfully submits that the claim language immediately following the formula directed toward variables “R₅ to R₁₂” implies and makes obvious to one skilled in the art that the formula contains such variables. Since all of the other R_x variables are present in the formula, and there is no discussion in the claim language of an “R₂” variable, one skilled in the art would recognize that there was an error in the formula and the appropriate correction is to replace the “R₂” variable with “R₁₂.” As such, Applicant respectfully submits that the corrections to this formula in the Specification and in the Claims is proper and does not add new matter.

Furthermore, Applicant respectfully submits that the changes to the formula overcome the 35 U.S.C. § 112, second paragraph, rejection of Claims 7 and 28 and as such these claims are now in a condition for allowance. Early notice to such effect is hereby respectfully requested.

2. Section 103(a) Rejection of Claims 1-6, 8-27, and 29-42

The Examiner submits that the Bernier et al. patent discloses compositions for attracting arthropods, especially mosquitoes, and that the compounds are based on blends of lipids derived from carboxylic acids. *See Office Action, Page 3*. The Examiner further contends that the Bernier et al. patent discloses that a blend of compounds is more effective than a single agent for attracting mosquitoes. *See Office Action, Page 3*. The Examiner also submits that the Bernier et al. patent discloses a number of types of traps that can be adapted for the attractants, and as such, the Bernier et al. patent meets the limitations of Claims 7, 19, 27 and 40-42. *See Office Action, Page 3*. However, the Examiner admits that the Bernier et al. patent does not teach that the trap comprises human skin sweat and microflora, that the

microflora produce various enzymes or compounds, or that microflora can be sterilized. *See Office Action, Page 3.*

In regard to the Braks et al. reference, the Examiner submits that it discloses that human sweat contains microorganisms and that mosquitoes are attracted to human sweat that has enhanced microbial growth and that sterilized sweat that had been incubated for some time was the most effective of the samples for attracting mosquitoes compared to non-incubated or non-sterilized sweat. *See Office Action, Page 3.* The Examiner contends that the Braks et al. reference teaches that the production of compounds that are attractive to mosquitoes is probably due to the skin bacteria processing sebum substrates. *See Office Action, Page 3.* The Examiner also submits that bacteria on the skin naturally produce extracellular enzymes and secrete compounds. *See Office Action, Page 3.* The Examiner contends that the Braks et al. disclosure meets the remaining claims because the human sweat from the sebaceous gland contains the claimed esters, waxes, and carboxylic acids which serve as substrates for the natural microflora that exist on the skin and that these microorganisms in turn excrete the enzymes that modify the excreted lipids. *See Office Action, Page 3.*

The Examiner then contends that it would have been obvious to one of ordinary skill in the art to modify the lipid-containing mosquito-attracting traps taught by the Bernier et al. patent by adding sterilized incubated sweat containing skin microflora. *See Office Action, Pages 3-4.* The Examiner contends that the motivation to do so comes from the Bernier et al. patent disclosing that you can combine mosquito-attracting compounds. *See Office Action, Page 4.* Finally, the Examiner contends that an ordinary artisan would have had a reasonable expectation of success because both the blends of the Bernier et al. patent and the sterilized

sweat of the Braks et al. reference are known to attract mosquitoes individually. *See Office Action. Page 4.*

Applicant's independent Claim 1 as currently amended recites, *inter alia*,
“...providing an artificial lipid based media...”

The Bernier et al. patent is directed toward a chemical composition that attracts arthropods, wherein the composition contains one or more carboxylic acids selected from a specific formula I mixed with one or more compounds selected from a specific group II. *Column 20, lines 10-18.* The Bernier et al. patent only teaches that a mixture of these specific compounds results in a synergistic arthropod attracting effect, it does not teach the general conclusion of the Examiner that any mosquito-attracting compounds may be beneficially combined. *See, e.g., Column 11, lines 23-33* (“The *novel combination of compounds* of the present invention serve as effective arthropod attractants....It has been *surprisingly discovered that the compositions of the present invention are effective in attracting arthropods, e.g., mosquitoes.*”) (emphasis added). Furthermore, the Bernier et al. patent does not teach combining the compounds with microorganisms found on the skin of a vertebrate host to obtain a modified composition.

The Braks et al. reference discloses that incubated human sweat is more effective in attracting mosquitoes than non-incubated sweat. The Braks et al. reference discloses that through the action of bacteria volatile components which are attractive to mosquitoes are released from the sweat. However, the Braks et al. reference also discloses that the identity of the volatile components are not known, nor is it disclosed which components of the sweat are acted on by the bacteria. *Page 133.* Further, the Braks et al. reference only discloses that

some lipids from the sebum may be present in the human sweat therefore leading to the growth of propionibacteria, but also admits that the possibility that the attraction might have been caused by the action of a single bacteria species cannot be ruled out. *Pages 132-33.* As such, the Braks et al. reference at most discloses that human sweat may be incubated with bacteria to increase the attractiveness of the sweat to mosquitoes. The Braks et al. reference, however, does not disclose or suggest that an artificial lipid based media would achieve a similar increase when combined with microorganisms. This is especially true since Braks et al. were not able to determine the identity of the volatile components.

Accordingly, Applicant submits that it would not have been obvious at the time the claimed invention was made to take the invention of the Braks et al. reference and modify it so as to reach the above-noted feature of the present invention, and thus, the rejection of at least independent Claim 1 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Applicant further submits that Claims 2-19 are allowable for the reason that these claims depend on allowable independent Claim 1 and because these claims recite additional features that further define the present invention.

Applicant's independent Claim 20 as currently amended recites, *inter alia*, "A trap to ensnare arthropods which are parasitic to vertebrate hosts, the trap comprising: an arthropod ensnaring device... an artificial lipid based media..."

The Bernier et al. and Braks et al. references are discussed above in relation to independent Claim 1. Even assuming, *arguendo*, that the incubated sweat of the Braks et al. reference could be properly combined with the traps of the Bernier et al. patent (which Applicant does not concede), the invention recited in Claim 20 still would not be reached

because, as discussed above, the Braks et al. reference gives no teaching or suggestion that an artificial lipid based media which is not attractive to mosquitoes on its own may be combined with microorganisms in order to achieve an increased attractiveness compound.

Accordingly, Applicant submits that it would not have been obvious at the time the claimed invention was made to take the inventions of the Braks et al. and Bernier et al. references and modify them so as to reach the above-noted features of the present invention, and thus, the rejection of at least independent Claim 20 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Applicant further submits that Claim 21 is allowable for the reason that this claim depends on allowable independent Claim 20 and because this claim recites additional features that further define the present invention.

Applicant's independent Claim 22 as currently amended recites, *inter alia*, "...providing enzymes, the enzymes being of a type excreted by microorganisms associated with a skin of the host vertebrate..."

The Braks et al. reference discloses incubating human sweat which results in the sweat being more attractive to mosquitoes than the non-incubated sweat. The Braks et al. reference concluded that this occurs due to the action of bacteria on the sweat. However, the Braks et al. reference does not propose the method by which this process occurs, in fact it is admitted that they are not sure which bacteria species causes the action. *Page 133*. In no way does the Braks et al. reference teach or suggest that enzymes may be isolated from the bacteria and combined with a lipid based media in order to effectuate the process. In fact, the Braks et al. reference discloses that the species-specific odors emanating from mammals are

probably the result of the substrate and the action of a range of skin bacterial species together. Page 133. As such, there is no teaching or suggestion by the Braks et al. reference to combine bacterial enzymes with a lipid based media to achieve a mosquito-attractive compound as is required by Claim 22.

Accordingly, Applicant submits that it would not have been obvious at the time the claimed invention was made to take the invention of the Braks et al. reference and modify it so as to reach the above-noted feature of the present invention, and thus, the rejection of at least independent Claim 22 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Applicant further submits that Claims 23-40 are allowable for the reason that these claims depend on allowable independent Claim 22 and because these claims recite additional features that further define the present invention.

Applicant's independent Claim 41 as currently amended recites, *inter alia*, "A trap to ensnare arthropods which are parasitic to vertebrate hosts, the trap comprising: an arthropod ensnaring device...providing enzymes, the enzymes being of a type excreted by microorganisms associated with a skin of the host vertebrate..."

The Bernier et al. and Braks et al. references are discussed above. In particular, the discussion in regard to independent Claim 22's use of enzymes is similarly applicable in regard to Claim 41. Even assuming, *arguendo*, that the incubated sweat of the Braks et al. reference could be properly combined with the traps of the Bernier et al. patent (which Applicant does not concede), the invention recited in Claim 41 still would not be reached because, as discussed above, the Braks et al. reference gives no teaching or suggestion that

enzymes may be combined with a lipid based media in order to achieve an increased attractiveness compound.

Accordingly, Applicant submits that it would not have been obvious at the time the claimed invention was made to take the inventions of the Braks et al. and Bernier et al. references and modify them so as to reach the above-noted features of the present invention, and thus, the rejection of at least independent Claim 41 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Applicant further submits that Claim 42 is allowable for the reason that this claim depends on allowable independent Claim 41 and because this claim recites additional features that further define the present invention.

Applicant respectfully submits that new Claims 43-48 are in condition for allowance and present no new matter. Specifically, independent Claims 43 and 46 recite, *inter alia*, "...providing a lipid selected from the group consisting of glycerides, sterols, sterol esters, sterol phosphates, sterol precursors, wax, wax esters, wax alcohols, and was aldehydes..."

Applicant respectfully submits that this limitation differentiates these claims from the referenced of record. In particular, the Bernier et al. patent may disclose some of these compounds in combination with another compound, but it does not teach or suggest combining these compounds with microorganisms or enzymes to achieve a modified lipid that modifies arthropod behavior. Also, while the Braks et al. reference may disclose that incubated human sweat is more attractive to mosquitoes than non-incubated human sweat, it does not teach or suggest that individual components of sweat may be isolated and combined with microorganisms or enzymes to result in a modified lipid. While it is true that some of

the compounds recited in Claims 43-48 may be found in human sweat, there is no teaching or suggestion in the prior art that any of these compounds alone may be used to achieve a modified compound useful in modifying arthropod behavior. While one may argue that it would have been obvious to try combining compounds isolated from sweat with bacteria to see which isolated compounds are useful in creating an increased attractant, there are many compounds present in human sweat and to try all of the compounds individually would require considerable experimentation. Additionally, there is lacking any motivation in the prior art to suggest that any individual compound would have a likelihood of success in being more attractive when combined with bacteria. Furthermore, it is well known that in order for a 103(a) rejection to be valid the claimed invention itself must be obvious, not that it would be "obvious to try" the combination. *See In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596 (Fed. Cir. 1988). Accordingly, Applicant respectfully submits that new Claims 43-48 are in condition for immediate allowance. Early notification to that effect is respectfully requested.

Conclusion

Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 112, 102, and 103, and respectfully requests that the Examiner indicate allowance of each and every pending claim of the present invention.

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious Applicant's invention as recited in each of Claims 1-48. The applied references of record have been discussed and distinguished, while significant claim features of the present invention have been pointed out.

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Response to Office Action of March 15, 2006
Attorney Docket: ISCAT-005A

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

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